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09/678,630	10/03/2000	Ian J. Forster	4579-083	6785

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EXAMINER	
YUN, EUGENE	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/678,630	Applicant(s) FORSTER, IAN J.	
	Examiner Eugene Yun	Art Unit 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-42 is/are pending in the application.

4a) Of the above claim(s) 37-42 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-36 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 03 October 2000 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 26, 27, 29, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gouin (US 6,211,846).

Referring to Claim 26, Gouin teaches a transponder, comprising:

a dipole antenna 6 (fig. 1);

a first loop conductor antenna1 (fig. 1);

a second loop conductor antenna 3 (fig. 1), said first and second loop conductor antennas positioned on opposite sides of said dipole antenna and capacitively coupled thereto (see positioning of antennas in fig. 1).

Referring to Claim 27, Gouin also teaches communication electronics communatively coupled to said antennas (see fig. 1).

Referring to Claim 29, Gouin teaches a wireless communication device comprising:

wireless communication electronics (see fig. 1);

an asymmetrical dipole antenna 6 (fig. 1) operatively connected to said wireless communication electronics, said dipole antenna operative at a first frequency; and

at least one loop antenna 1 (fig. 1) capactively coupled to said dipole antenna and operative at a second frequency (see positioning of antennas in fig. 1).

Referring to Claim 30, Gouin also teaches a second loop antenna 3 (fig. 1) capacitively coupled to said dipole antenna and operative at a third frequency (see positioning of antennas in fig. 1).

3. Claims 14-16, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Proctor et al. (US 6,346,922).

Referring to Claim 14, Proctor teaches a wireless communication system comprising:

a first wireless communication device 26 (fig. 2) coupled to a loop conductor antenna 28 (fig. 2) operating at a first frequency;

a second wireless communication device 34 (fig. 3A) coupled across said loop conductor antenna 36 (fig. 3A) on one side of said first wireless communication device; and

said second wireless communication device coupled to said loop conductor antenna including said first wireless communication device at a second operating frequency (fig. 3A) and coupled to said loop conductor antenna excluding said first wireless communication device at a third operating frequency (fig. 3B).

Referring to Claim 15, Proctor also teaches an interrogator 12 (fig. 1) operating at one of said frequencies and interrogating one of said wireless communication devices 14.1-14.n (fig. 1).

Referring to Claim 16, Proctor also teaches an article 20 (fig. 1) to be tracked by one of said wireless communication devices, said article attached to one of said wireless communication devices.

Referring to Claim 18, Proctor also teaches the second wireless communication device operating at 868 MHz and 915 MHz (see col. 3, lines 46-49).

Referring to Claim 19, Proctor also teaches a dipole antenna operating a fourth frequency (see col. 2, lines 57-60).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-5, 8-13, 21, 24, 25, 31, 32, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouin in view of Carr (US 4,433,336 "IDS") and Lake (US 6,089,458 "IDS").

Referring to Claim 1, Carr teaches a wireless communication device comprising:

a communication electronics (see PROCESSOR in fig. 1);

a first loop conductor antenna 40 (fig. 1) operating at a first frequency, said first loop conductor antenna operatively connected to said communication electronics;

a second loop conductor antenna 41 (fig. 1) operating at a second frequency, said second loop conductor antenna operatively connected to said communication electronics;

a pole antenna 42 (fig. 1) operating at a third frequency, said pole antenna operatively connected to said communication electronics.

The combination of Gouin and Carr does not teach communication electronics selectively communicating with a remotely positioned interrogator through one of said antennas. Lake teaches communication electronics selectively communicating with a remotely positioned interrogator 14 (fig. 1) through one of said antennas 32 (fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Lake to said device of Carr in order to more easily detect the location of a transponder.

Referring to Claim 3, Carr also teaches said first loop conductor antenna operating at 13.56 MHz (see col. 2, lines 11-14).

Referring to Claim 4, Carr also teaches a third loop conductor antenna 15 (fig. 1) operating at a fourth frequency.

Referring to Claim 5, Carr also teaches said first loop conductor antenna, said second loop conductor antenna, and said third loop conductor antenna share a loop conductor 17 (fig. 1).

Referring to Claim 8, Gouin also teaches said pole antenna comprising a dipole antenna 6 (fig. 1) and second communication electronics 6b (fig. 1), the first communication electronics associated with one of said loops 1 (fig. 1) and said second communication electronics associated with said dipole antenna.

Referring to Claim 9, Gouin also teaches said pole antenna positioned between said first loop conductor antenna and said second loop conductor antenna and capacitively couples to said first and second loop conductor antennas (see positioning of antennas in fig. 1).

Referring to Claim 10, Gouin also teaches said pole antenna positioned across said first and second loop conductor antennas (see positioning of antennas in fig. 1).

Referring to Claim 11, Carr also teaches said pole antenna comprising at least one tab 18 (fig. 1).

Referring to Claim 12, Carr also teaches the pole antenna comprising a ground plane 27 (fig. 1) and said tab comprising a monopole antenna (see ABSTRACT).

Referring to Claim 13, Gouin also teaches said pole antenna comprising two tabs 6 and 6b (fig. 1) to form a dipole antenna.

Referring to Claim 21, Lake teaches interrogating a wireless communication device at a first frequency (see fig. 1) through a first loop conductor antenna 32 (fig. 3) on the wireless communication device.

The combination of Carr and Lake does not teach the wireless communicating device also comprising a dipole antenna operating at a second frequency and a second loop antenna operating at a third frequency. Gouin teaches the wireless communicating device also comprising a dipole antenna 6 (fig. 1) operating at a second frequency and a second loop antenna 3 (fig. 1) operating at a third frequency. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gouin to said device of Lake in order to more easily detect the location of a transponder.

Referring to Claim 24, Gouin also teaches a third loop conductor antenna 2 (fig. 1) operating at a fourth frequency.

Referring to Claim 25, Lake also teaches communicating from an interrogator 14 (fig. 1) to a central control system 12 (fig. 1).

Referring to Claims 31 and 32, Carr teaches a slotted ground plane 27 (fig. 1) operative with a pole antenna 42 (fig. 1). Carr does not teach the pole antenna as a dipole antenna. Gouin teaches the pole antenna as a dipole antenna 6 (fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gouin to said device of Carr in order to have a multi-frequency antenna radiate better omnidirectionally.

Referring to Claim 34, Carr also teaches said one loop antenna operative at a low frequency (see col. 2, lines 11-14).

Referring to Claim 36, Carr also teaches said at least one loop antenna comprising a nested part 13 and 14 (fig. 1) to increase bandwidth reception on said at least one loop antenna.

6. Claims 2, 6, 17, 22, 23, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouin, Carr, and Lake in view of Proctor et al. (US 6,346,922).

Referring to Claim 2, the combination of Gouin, Carr and Lake does not teach a first loop conductor operating at 868 MHz. Proctor teaches a first loop conductor operating at 868 MHz (see col. 3, lines 46-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Proctor to said device of Gouin in order to reduce interference in a multi-frequency antenna.

Referring to Claim 6, Carr teaches a loop conductor antenna operating at 13.56 MHz (see col. 2, lines 11-14). The combination of Gouin, Carr, and Lake does not teach a first loop conductor operating at 868 MHz and a second loop conductor operating at 915 MHz. Proctor teaches a first loop conductor operating at 868 MHz and a second loop conductor operating at 915 MHz (see col. 3, lines 46-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Proctor to said device of Gouin in order to reduce interference in a multi-frequency antenna.

Referring to Claim 17, Proctor does not teach first wireless communications device operating at 13.56 MHz. Carr teaches first wireless communications device operating at 13.56 MHz (see col. 2, lines 11-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Carr to said device of Proctor in order to reduce interference in a multi-frequency antenna.

Referring to Claim 22, Proctor teaches interrogating the wireless communication device (fig. 1) through a dipole antenna 34 (fig. 3A) on the wireless communication device. Proctor does not teach the dipole antenna capacitively coupled to said first and second loop conductor antennas. Gouin teaches the dipole antenna capacitively coupled to said first and second loop conductor antennas (see positioning of antennas in fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gouin to said device of Proctor in order to more easily detect the location of a transponder.

Referring to Claim 23, Proctor teaches interrogating the wireless communication device (fig. 1) through a dipole antenna 34 (fig. 3A) on the wireless communication device. Proctor does not teach the dipole antenna positioned across said first and second loop conductor antennas. Gouin teaches the dipole antenna positioned across said first and second loop conductor antennas (see positioning of antennas in fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gouin to said device of Proctor in order to more easily detect the location of a transponder.

Referring to Claim 33, the combination of Gouin, Lake, and Carr does not teach the dipole antenna operative at a microwave frequency. Proctor teaches the dipole antenna operative at a microwave frequency (see col. 2, lines 57-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Proctor to said device of Gouin in order to reduce the dependency of the proximity of other objects.

7. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gouin in view of Ehlers (US 4,727,598).

Gouin teaches a second loop antenna capacitively coupled to said dipole antenna. Gouin does not teach a second loop antenna operative at a UHF frequency. Ehlers teaches a second loop antenna operative at a UHF frequency 32 (fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Ehlers to said device of Gouin in order to reduce interference in a multi-frequency antenna.

8. Claims 7, 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouin, Carr, Lake, and Proctor in view of Goff et al. (US 6,154,137).

Referring to Claims 7, 20, and 28, Proctor teaches a first loop conductor operating at 868 MHz and a second loop conductor operating at 915 MHz (see col. 3, lines 46-49). The combination of Gouin, Carr, Lake, and Proctor does not teach said dipole antenna to operate at 2.45 GHz. Goff teaches said dipole antenna to operate at

2.45 GHz (see col. 5, lines 13-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Goff to said device of Gouin in order to reduce interference in a multi-frequency antenna.

Response to Arguments

9. Applicant's arguments filed 12/3/2003 have been fully considered but they are not persuasive.

Regarding Claims 1 and 21, there are no limitations in either of claims 1 or 21 that teaches an interrogator selectively interrogating one of three antennas. Claim 1 teaches communication electronics selectively communicating with a remotely positioned interrogator through one of said antennas, which is actually the opposite of what the applicant argues the cited prior art does not teach. Claim 21 teaches an interrogator interrogating three different antennas, but not selectively. The applicant's argument regarding these claims is invalid.

Regarding Claim 14, the applicant argues that the Proctor reference does not teach multiple transponders coupled to antennas but does not explain why. For at least this reason, the examiner stands by his rejection stating that figures 1-3B in the Proctor reference clearly show multiple transponders coupled to antennas.

Regarding Claims 26 and 29, The two loop antennas and dipole antenna in the Gouin reference are capacitively coupled simply by noting that the placement of the dipole antenna is in between two loop antennas. The dipole antenna is asymmetrical

when you consider the antenna only in reference to the loop antennas. In addition, the dipole antenna in the Proctor reference is also symmetrical so an obvious combination could also have been made between the two references to overcome the argument.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (703) 305-2689. The examiner can normally be reached on 8:30am-5:30pm Alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eugene Yun
Examiner
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